



RADIO AMATEUR NEWS & VIEWS

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NEXT MEETING: Tuesday January 12th

Network Analyzer
Bob KB1FRW

The January meeting will discuss the NanoVna, a low cost, small volume vector network analyzer with a frequency range of 50kHz to 3.3MHz.

This device is capable of measuring :

- Reflection loss
- Pass-through loss
- Complex impedance
 - resistance
 - reactance
- SWR

This device is low cost, around \$70 US, well within the range of most amateurs.

I will talk a bit about what it does and have a few demos of antenna measurement in my shack.

I will also show the TinySA, a low cost, small form factor Spectrum analyzer capable of 100kHz to 960mHz.

A brief explanation of the uses for ham radio and a demo of the possible uses for a amateur operator will be shown.

You won't be overwhelmed with deep technical explanations as I don't know them very well but you should come away with a good idea as to what they can do for you.

Bob KB1FRW

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Meetings: 2nd Tuesday • 7:00 PM
Wheeler House
1100 Dorset Street
South Burlington

Repeater: 145.150, PL 100; WB1GQR

New Hams, Mentoring:
RANVMentor@gmail.com

VT State Parks On The Air:
<https://www.facebook.com/groups/292829457810746/>

Online Dues Payment:
www.ranv.org/ranvpay.html

HAM-CON - ON-LINE FEBRUARY 27

Mitch **W1SJ**

HAM-CON 2021 will be in an On-Line version.

The overall feeling, I am getting from many is one of lack of enthusiasm. There seems to be a rejection of all things caused by COVID, especially on-line activities. Can you really blame anyone? Where we used to go out and have fun has been replaced by the hum-drum of looking at the computer screen.

It is time buck up! Everyone needs to get their attitude back into the positive zone. And this advice is coming from the glass-half-empty engineer.

First some things to know:

1. THERE WILL BE NO HAMFESTS for the foreseeable future, at least until May. And even that is not guaranteed. There are only FOUR On-Line ham radio events during this time, including HAM-CON.
2. HAM-CON On-Line is being designed as a DIRECT replacement of the event we all know and love. The PRIMARY focus is “people interacting with people”. This has been sadly missing from the few events on-line I have attended. Those were essentially a group of webinars with limited audience interaction. HAM-CON will allow you to have direct face-to-face meetings with your pals and other attendees in a safe manner. HAM-CON will have vendors showing off their wares. HAM-CON will have a great group of forums and LIVE discussion with the presenters – not just typed questions.
3. HAM-CON On-Line is NOT a ONE-HIT WONDER. When we go back to a live format, we plan include aspects of the On-Line show so that everyone can be included. It should not come as a surprise that our average age is in the 65+ zone. Many have health issues and either cannot or desire not to travel, especially in winter. Many are busy with other pursuits, but still want to spend a limited amount of time at a show. The On-Line format includes these people. We envision a hybrid show where we have the best of both worlds.
4. HAM-CON On-Line requires responsibility from the attendees. Your computer and web connection have to be working properly. You need to have the latest Zoom application loaded. You need a working camera. For those who hate cameras, this is NOT a masquerade party (that might be interesting). Over half of communication is non-verbal – not having that camera does make a difference.

We need to SELL these concepts to everyone else. This will be a great show, given the restrictions of these days, but everyone has to be willing to accept it. This means repeating the above points to others you speak to, so that many people will give this a try.

The other issue is that young people will largely embrace On-Line events and old people will not. This is a great opportunity

to reach out to our younger hams who we see or hear little from. How do we reach them? I don't know. I have asked for someone to help us with a social media presence and the silence I got was deafening. I'm not even sure how many RANV members are under 40. I'm thinking that it is a very small number. This means we need to reach out beyond our club and our area.

Here are the things to do to prepare for HAM-CON. First, go to www.HAM-CON.org and check out the links. Currently, there are mock forums and sellers so that you can see how everything will work. If you plan to be a seller, read the directions on this and prepare your flea market table. Go to the section which talks about Zoom and check your version. A new feature we have is that the RANV Get-Together meetings (now branded as HAM-CON meetings) will have a direct link from this site. This link will be available only during meeting times on Tuesday nights. These meetings are great for testing your Zoom platform and learning how to access the myriad meeting rooms we have set up. This is also the place to ask for help.

We hope to have a practice HAM-CON is a couple of weeks with some real content. We would like to have 20-30 people come into the on-line show and test it out so that we can fix the rough spots before the real event on February 27.

We are sailing in uncharted waters. This is both scary and exciting. And much like we did for remote testing, I expect these On-Line Hamfests to come into their own and become a useful resource alongside live shows. But we need everyone to jump in and engage!

VERMONT QSO PARTY FEBRUARY 6-7

Mitch **W1SJ**

The 63rd running of the Vermont QSO Party will take place on the weekend of February 6th . The event will start Friday night at 7PM and run for 48 hours. You can operate as much of it as you dare.

Vermont is the FIRST QSO Party of the year, starting 14 hours before Minnesota, and 16 hours before British Columbia, which both run on the same weekend. Vermont's QSO Party may be one of the oldest, running since 1958. However, I have yet to find information on when the other events started.

That all being said, for this to work, WE NEED VERMONT STATIONS TO GET ON. We had less logs last year than the year before (although way more contacts were made). And I really HATE to get comments like this one I got last year, “What good does it do to hold a VT QSO Party if amateurs in Vermont don't participate?” It is not true, of course, but perception is everything.

So get on the air. Get on 20 meters SSB, get on 40 meters SSB, get on CW, get on FT8. Whatever your favorite gig is, get on and make contacts. Call CQ! They won't find you if

you just tune around – that doesn't work.

Some of the other QSO Parties are dropping FT8. We are not. If that is your mode of choice, get on and make a lot of contacts. The scoring is somewhat different, but worry about the contacts first and we'll figure out the score later.

With distancing restrictions there will be no multiop this year at W1NVT. However, I will make the call sign available for use at various times and modes. Contact me if you are interested. But again, get on the air, with any legitimate call sign.

Don't have an antenna? I have an idea! Our RANV "Parks On the Air" group "might" be able to put up a temporary dipole for you for the weekend. We can usually put these up in 30 minutes or so. But this depends on the willingness of others to do this and more importantly the weather!

Before the event, let me know when and where you will be operating and I'll list this on the web site. Full rules are at www.ranv.org/vtqso.html.

ARE YOU ACTIVE?

Mitch **W1SJ**

We've been seeing a lot of reflector posts from AA1SU, K1VMT, K1ZK, KK1L and I about various activities we have been engaging in on the HF bands. Despite conditions being rather poor (Sunspot number was 0 yesterday), there has been a lot of interesting activity, nonetheless.

Congratulations to Paul on getting his first Asia (Japan) on 160-meter FT8. I haven't done this yet. And I'm not sure if I will try waking up every morning, either. It is even more interesting when you consider that the average Japanese yard is about the size of my bedroom. Where do they put the 160-meter antenna? Good question. I'll also tell you that those last 10 DXCC countries to get to 100 on 160 meters are the HARDEST. Not only are conditions tougher on 160 meters, but you need a lot of room for a good antenna and some countries are very tiny! For example, my beverage would stretch ¼ of the length of Vatican City and a few chapels might have to be moved to accommodate it!

I have been working the two extremes – 160 meters and 12 meters. Winter is the best season for 160 meters. The highlight of the 160-meter season is the Stew Perry Top Band Distance Contest where you get points for distance. I had a few high value contacts with Ukraine and other Eastern Europe locales, but most of my contacts were 1-pointers in the Northeast. I'm not a big gun on 160 meters with a low dipole – probably more like a little pistol, or BB gun! But that means that anyone with a sizeable yard can do what I do.

Middy, I'm trying to finish out DXCC on 12 meters. It is a tough challenge right now. Some days are good, with some Europe coming in. Most days just feature stateside activity and some days – nothing. But I do hear several Vermonters also

trying to put contacts in the log on this challenging band right now.

Last week I did something I haven't done in a long time – operate in the RTTY Roundup. I finally figured out how to tame the software and once this is done, it is fairly easy to run stations. A competitive station (I'm not) would be searching and pouncing a lot, which is a bit more challenging on RTTY.

Next weekend is the North American QSO Party. This is (mostly) a stateside contest using low power, which is a great equalizer. You exchange your name and state, which should not be too challenging. Get on and have some fun with this one.

The first weekend in February is the Vermont QSO Party. That is an opportunity to work a lot of people in a short period of time. See the details in the accompanying article in this newsletter.

Working the ISS Repeater

Carl **AB1DD**

On September 2, 2020, a repeater was activated on the ISS (Space Station) It has an uplink frequency of 145.990 MHz with a 67Hz tone. The downlink is 437.800 MHz since the ISS travels about 4.7 mi/sec, Doppler shift is a concern on the downlink side.

You don't need a lot of fancy gear to work the ISS. I use an Icom IC2730 dual band mobile FM radio. You do need a full duplex radio, so you can hear the downlink as you are transmitting. My antenna is a homemade dual band J-pole sitting in the back room. One side of the radio is fixed on the transmit side, and on the other I set the VFO (not memory) on 437.800. Set the tuning steps as low as your radio will go, mine is 5 KHz. I tune up a little, maybe .810, and listen. When the ISS is in range, I call. Just a call sign and grid square are enough, since the passes are short.

Sometimes you can hear your signal come back on the downlink frequency, But I have only heard myself once, and it was a loud feedback squeal. Be careful, it really causes problems for others using the repeater. The window for contacts is only a couple of minutes, so you have to work fast. You can increase the window if you have a point able dual band antenna and can follow the ISS.

The first step would be to listen to the downlink. Get the hang of tuning the receiver. It's fairly easy to hear the repeater. Check for passes, a good site is n2yo.com. You can see when a pass will be within range. Make sure that you are looking at the ISS on the map. Click on the "draw footprint" box on the bottom of the map. This will place a shaded circle that shows when ISS will be above the horizon. It may be a little bit later when you hear it due to what you have for an antenna and any hills in the way.

Start listening a little bit high in frequency, say 437.810 MHz. As the ISS passes overhead, tune down slowly. I've gone

down as low as 437.790 MHz When you get the hang of tuning, and have heard a few passes, then you can try transmitting. Give your call once, listen carefully for someone returning your call. Get his call and grid square, and give them yours. There isn't any time for repeats, it goes fast, and with lots of others trying to make contacts, you need to do it right the first time. One time I called, and heard at least 5 others calling me. I only had time to answer 2. Vermont is wanted on satellites also.

The last step is confirmation. There are many on line logbooks. Probably the hardest is Logbook of the World. You need to do some special modifications to your .adif file if your logging program doesn't support satellite contacts. There is a good explanation on the ARRL LoTW site, <https://lotw.arrl.org/lotw-help/satellite-qsos/?lang=en>

I had quite a time trying to get a contact in Ky to match up on LoTW. He didn't get the satellite name right, it needs to be exactly as on the "list" He also used the wrong uplink, he used 145.991. Didn't match. He told me via email he had not received very many matches in LoTW, including mine. After he changed a few things in his logging program and resubmitted it, he got almost all of his contacts! He used HRD log. There is a way to submit logs directly into LoTW. This works if you only have a few to submit. Open TQSL, and "Create an ADIF file for signing and uploading". Fill out the entries, using Satellite for propagation mode, and ARISS for the satellite. You need to fill out the other fields as well, of course. If you are an LoTW user, then these instructions should be familiar.

These contacts have been fun, working thru the ISS as opposed to any other satellite. Give it a try, it's kind of cool to be able to say I worked stations thru the ISS!

Carl
AB1DD



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NEXT MEETING

Tuesday • January 12TH • 7:00pm
Via Zoom

Meeting Topic
Network Analyzers

Upcoming, Notices, & Misc

- Steering Wheel: 3rd Tues 6:30; Ninety-Nine Restaurant, Taft Corners, Williston
- VE Exams every 2nd Friday; Contact AB1DD@arrl.net for information
- Dues due? Pay online at www.ranv.org/ranvpay.html